

A NEW GYPSOPHILIC SPECIES OF *SOPHORA* (FABACEAE) FROM NUEVO LEON, MEXICO

Billie L. Turner

Department of Botany, University of Texas, Austin, Texas 78713 U.S.A.

ABSTRACT

A new species of *Sophora*, *S. juanhintoniana* B.L. Turner, is described from a single gypseous outcrop in Mpio. Aramberri, Nuevo León. It is closely related to the relatively rare endemics, *S. purpusii* T.S. Brandegee of southern Coahuila and closely adjacent Zacatecas, and to *S. gypsophila* B.L. Turner & A. Powell of northeastern Chihuahua and western Texas, U.S.A.

KEY WORDS: Fabaceae, *Sophora*, gypsum, edaphic endemism, México

Sophora (sensu lato) is a cosmopolitan, relatively primitive, genus notorious for its wide array of morphological groupings, many of which have been elevated to generic status (cf. Polhill 1981, for review). The species described here belongs to the *Calia* grouping, which includes *S. arizonica* S. Wats., *S. formosa* Kearney & Peebles, *S. gypsophila* B.L. Turner & A. Powell, and *S. purpusii* T.S. Brandegee. Turner & Powell (1972), Northington (1976), and Van Devender & Northington (1977) have reviewed the taxonomy and distribution of most of these taxa, including rat-midden fossils of *S. gypsophila*.

Sophora juanhintoniana B.L. Turner, *sp. nov.* TYPE: MEXICO. Nuevo León: Mpio. Aramberri, La Soledad, base of gypsum mounds, 1680 m, 26 Mar 1994, *Hinton et al.* 24053 (HOLOTYPE: TEX!).

Sophorae purpusii T.S. Brandegee similis sed floribus lavandulis (vs. albis), vexillis minoribus (ca. 14 mm longis vs. ca. 20 mm), foliis majoribus (4-6 cm longis vs. 3-4 cm), et habitatione gypsea (vs. calcarea) differt.

Low shrubs 0.4-1.2 m high. Stems (lower) 5-7 mm across, the bark grey and fissured. Leaves (larger) odd-pinnate with 11-19 leaflets; petioles mostly 0.5-0.8 cm long; rachises 4-6 cm long; leaflets broadly ovate to elliptic, the lowest pairs mostly 6-9 mm long, 3-5 mm wide, rounded at the apices, densely silvery-strigose beneath, less so above and soon glabrescent. Racemes short, the flowering axis ca. 6 mm long, the flowers 3-6 arranged in subverticillate terminal clusters on pedicels 2-6 mm long. Calyx 9-11 mm long, moderately short-strigose, bracteolate at the base, the hypanthium 3-4 mm long, the lower 3 lobes ca. 1 mm long, their apices rounded, the upper 2 lobes fused forming a single broad arcuate lobe ca. 1 mm high and 4 mm across. Petals lavender; banner bilobed, ca. 14 mm long, the claw ca. 4 mm long, the blade ca. 10 mm long and 6 mm wide; wing petals with claw ca. 4 mm long, the blade ca. 7 mm long, 2.5 mm wide; keel petals \pm similar to the wings. Ovary densely silvery-strigose, mostly containing 6-8 ovules. Legumes weakly arcuate, 6-8 cm long, ca. 1 cm wide, persistently moderately appressed-pubescent. Seeds red, reniform, glabrous, ca. 8 mm long, 5 mm wide, the hilum ca. 2.5 mm below the broadest end.

Sophora juanhintoniana was first collected in sterile condition by the Hinton on 14 Jul 1993 (*Hinton et al.* 29025 [TEX]). The same site was subsequently revisited in 1994, when type material was obtained along with a series of color photographs showing its habitat, habit, and flower details (on file with the holotype).

George Hinton, who revisited the type locality to collect flowers and fruit, noted the following (pers. comm., letter dated 30 Mar 1994):

"Last Saturday I went back to the little gypsum area near La Soledad, Aramberri, to see if the *Sophora hintoniorum* [= *S. juanhintoniana*] was in flower. I was very pleased to find it in full bloom, and to be able to collect a few red beans so that the description can be complete. I figure that it grows in an area of three acres at the base of a gypsum mound, together with *Leucophyllum hintoniorum*, which is the dominant species. The whole gypsum area is about ten acres, but the *Sophora* grows only on the flat, and as soon as you leave the gypsum it disappears. We looked for some seedlings to bring back to the ranch but couldn't find any. The plant grows up to about 1.2 m., and usually has an old gnarled trunk from which sprout the branches."

Sophora juanhintoniana is clearly closely related to *S. gypsophila* of northeastern Chihuahua and the poorly known *S. purpusii* of northern Coahuila and closely adjacent Zacatecas (Northington 1976); the former is gypsophilic but, so far as known, the latter is calciphilic. These several taxa may be contrasted as follows (data for *Sophora purpusii* from the type description).

	<i>S. juanhintoniana</i>	<i>S. purpusii</i>	<i>S. gypsophila</i>
leaves	4-6 cm long	3-4 cm long	6-12 cm long
petioles	4-8 mm long	5-7 mm long	8-12 mm long
leaflets no.	11-19	13-19	13-19
lft. size	5-12 mm long	6-8 mm long	10-16 mm long
Corollas:			
color	lavender	white	lavender
banner	ca. 14 mm long	ca. 20 mm long	25 mm long

The above comparisons are admittedly poorly contrasting, but it appears that *Sophora juanhintoniana* can be distinguished from *S. purpusii* by its lavender flowers (vs. white), with smaller banners (ca. 14 mm long vs. ca. 20 mm long), and larger leaves (4-6 cm long vs. 3-4 cm long). From *S. gypsophila* it differs markedly in its foreshortened racemes, and smaller leaves and flowers, as noted in the above comparisons.

The species name honors John Hinton (23 Dec 1951-1 Oct 1970), son of Jaime Hinton, whose early death precluded an extended experience with the Hinton family's botanical field excursions, but it is my understanding that he helped maintain the Hinton's personal herbarium and participated in numerous sorties with his father. For all of this, the present eponym is bestowed.

ACKNOWLEDGMENTS

I am grateful to Guy Nesom for the Latin diagnosis and to him and Alan Prather for reviewing the manuscript. Special thanks to George Hinton for gathering adequate type material and for providing detailed notes and photographs of the species and its habitat.

LITERATURE CITED

- Northington, D.K. 1976. Evidence bearing on the origin of intraspecific disjunction in *Sophora gypsophila* (Fabaceae). *Pl. Syst. Evol.* 125:233-244.
- Polhill, R.M. 1981. *Sophoreae*, in *Advances in Legume Systematics* 1:213-232 [Polhill & Raven, eds], Roy. Bot. Gardens, Kew, Great Britain.

- Turner, B.L. & A.M. Powell. 1972. A new gypsophilic *Sophora* (Leguminosae) from northcentral México and adjacent Texas. *Phytologia* 22:419-422.
- Van Devender, T.R. & D.K. Northington. 1977. Phyletic interpretations from fossil (ca. 16,000 BP) remains of *Sophora* in the southwestern United States. *Southwestern Naturalist* 22:495-504.